REMARKS:

1. Claims 1-2, 4-14, 16-23 and 25-38 are pending. Claims 4-7, 17-20, 26-29 and 33 are allowed. Claims 1, 4, 10-14, 16-23, 26, 28-29 and 32-35 are hereby amended. Three new claims 39-41 are added. Support for the new claims is found in the specification at page 10, line 29 et seq.

2. Claims 1-2, 8-14, 16, 21-23, 30-32 and 34-38 were rejected under 35 USC section 103 as being unpatentable over Applicant's admitted prior art in view of Eran et al., U.S. Pat. No. 6,862,326 ("Eran"). These rejections are traversed below.

Fundamentally, the combination of the cited sections of the Background section and Eran does not teach all elements of the claims. For instance, claim 1 recites the subject matter of "processing the received signal in the searcher to obtain a multi-path profile of the radio channel, where processing comprises at least partially removing an effect of at least one of a transmit filter or a receive filter on the multi-path profile, where at least partially removing comprises passing the received code division multiple access signal through a filter selected to have a filter characteristic that approximates an inverted amplitude or power response of the at least one of the transmit filter or the receive filter". Applicants cannot find at least the highlighted subject matter in the combination of the Background section and Eran.

What Eran discloses is a whitening matched filter 40, which includes a matched filter 42 and a noise whitening filter 44. See Figure 2 of Eran. The matched filter 42 is described by Eran at col. 14, lines 5-17. In that section, the matched filter's impulse response is related to a time limited series of the channel impulse response. Eran does state the following:

> "The channel impulse response (CIR) is considered to comprise the overall response of the following factors along the signal path: transmit filter, fading channel propagation path response, receive filter and any post-filtering done before channel estimation is performed, for example channel equalization or interference suppression."
> Eran, col. 13, line 66 to col. 14, line 4.

However, it is believed that by selecting the matched filter's impulse response as being the time limited series of the channel impulse response, the signal-to-noise ratio of the received signal is basically maximized relative to the channel impulse response.

In other words, because the matched filter in Eran matches the channel impulse response, the matched filter (along with the whitening filter, described below) in Eran "compensate[s] for the coloration potentially added by the transmit pulse shaping filter, channel distortion including multipath propagation and fading, receive filter and any pre-channel estimation filtering." Eran, col. 2, line 66 to col. 3, line 4.

Eran also discloses that the whitening filter is formed at least in part by determining a maximum phase portion of the channel impulse response and subtracting this portion from the output of the matched filter 42. See Figure 3 and Figure 4 and col. 12, line 12 to col. 13, line 60 of Eran.

At page 3 of the Office Action the Examiner asserts that because Eran's whitening filter applies inverse filtering to the channel impulse response H, it must inherently include a characteristic that approximates an inverted amplitude or power response of one of the transmit or receive filters. This is facially incorrect. By definition the channel impulse response is for the channel BETWEEN the transmitter and receiver. Claim 1 explicitly recites inverted amplitude of power response of the at least one of the transmit filter or receive filter whereas Eran's response H is of the dis-embodied channel, the claimed amplitude of power response is of the filter as hardware. See, for example, page 9 lines 23-26 which describe that the N-tap FIR filter 300 of Fig. 3B approximates an inverse amplitude response of the matched receive filters 106A, 106B and the corresponding base station transmit filter 56 shown at Fig. 2.

There is no disclosure or suggestion in Eran of at least the subject matter of "where at least partially removing comprises passing the received code division multiple access signal through a filter selected to have a filter characteristic that approximates an inverted amplitude or power response of the at least one of the transmit filter or the receive filter", as the matched filter in Eran is related to the channel impulse response and not to a filter having a filter characteristic that approximates an inverted amplitude or power response of a transmit or receive filter, and the whitening filter in Eran is unrelated to a filter having a filter characteristic that approximates an inverted amplitude or power response of a transmit or receive filter.

Therefore, claim 1 is patentable over the combination of the Background section

and Eran. Dependent claims 2, 8, 9 and 38, which depend from claim 1, are patentable for at least the reasons given with respect to claim 1.

With regard to the rejections of claims 10-16 based on the Background section and Eran, the combination of the Background section and Eran does not disclose at least the subject matter in claim 10 of "a deconvolution searcher block having an input coupled to an output of the receiver front end for inputting a received signal and an output for outputting a digital representation of a radio channel multi-path profile to a control function, said deconvolution searcher block comprising a unit configured to process the received signal to at least partially remove an effect of at least said receiver filter on the multi-path profile, the unit comprising a filter having a filter characteristic that approximates an inverted amplitude response of at least said receiver filter".

The argument given above with respect to claim 1 is also valid here. In particular, as the matched filter in Eran is related to the channel impulse response and not to a filter having a filter characteristic that approximates an inverted amplitude response of at least a receiver filter, and the whitening filter in Eran is unrelated to a filter having a filter characteristic that approximates an inverted amplitude response of at least a receiver filter. As a result, claim 10 is allowable over the Background section and Eran.

Because claim 10 is allowable over the combination of the Background section and Eran, its dependent claims 11-16 are also patentable for at least the reasons given with respect to claim 10.

With respect to the rejections of claims 21-23 and 30-31 based on the combination of the Background section and Eran, claim 21 recites "said mobile station comprising a unit to at least partially remove, at least partially via deconvolution, an effect of at least said receiver on the multi-path profile, where said unit comprises a filter having a filter characteristic that approximates an inverted response of at least said mobile station receiver filter". The argument given above with respect to claims 1 and 10 is equally valid for claim 21, as the matched filter in Eran is related to the channel impulse response and not to a filter having a filter characteristic that approximates an inverted amplitude response of at least a receiver filter, and the whitening filter in Eran

is unrelated to a filter having a filter characteristic that approximates an inverted amplitude response of at least a receiver filter.

Claim 21 is patentable over the asserted combination of the Background section and Eran. Claim 32 recites in relevant respect similar subject matter to claim 21. In particular claim 32 recites "passing the received code division multiple access signal through a filter selected to have a filter characteristic that approximates an inverted response of at least one of a base station transmit filter or at least one mobile station receive filter so as to reduce an occurrence of multi-path sidelobes in the output data", at least the highlighted text of which was shown above as not being disclosed or implied by Eran. Therefore, the combination of the Background section and Eran do not disclose at least this subject matter, and claim 32 is patentable.

Again, claim 21 is patentable over the asserted combination of the Background section and Eran. Claim 34 recites in relevant respect similar subject matter to claim 21. In particular, claim 34 recites "said searcher comprising a deconvolution processing block configured to process the received code division multiple access signal to at least partially remove an effect of at least a receiver filter in the receiver front end on the multi-path profile, the deconvolution processing block comprising a filter having a filter characteristic that approximates an inverted amplitude response of at least said receiver filter", at least the highlighted text of which was shown above as not being disclosed or suggested by Eran. Therefore, the combination of the Background section and Eran do not disclose at least this subject matter, and claim 34 is patentable. Dependent claims 35-37 are also patentable, as these claims depend from claim 34.

Based on the foregoing arguments, it should be apparent that the remaining claims are thus allowable over the reference(s) cited by the Examiner, and the Examiner is respectfully requested to reconsider and remove the rejections.

3. Should any unresolved issue remain, the Examiner is cordially invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted:

22 Sept 2008

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